Some Issues for Interoperability of Large Digital Libraries: A View from CNI

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Coalition for Networked Information

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Coalition for Networked Information (CNI)

- Founded in 1990 by ARL and EDUCAUSE
- Mission: accelerate progress in networked information related to research and education
- 200+ member institutions
- Executive Director Clifford Lynch
- www.cni.org

Some priorities

- Broad issues
  - Develop a user-centered view of digital libraries
  - Focus on interoperability of digital objects beyond those held in traditional libraries
- Specific issue
  - Author identity management within scholarly communication systems

A user-centered view of digital libraries

- What is a digital library?
  - Is it static, with relatively stable content, functionality, and policies?
  - Does the current digital library concept focus more on an institution-centric view than on a user-centric view?

To understand priorities for interoperability…

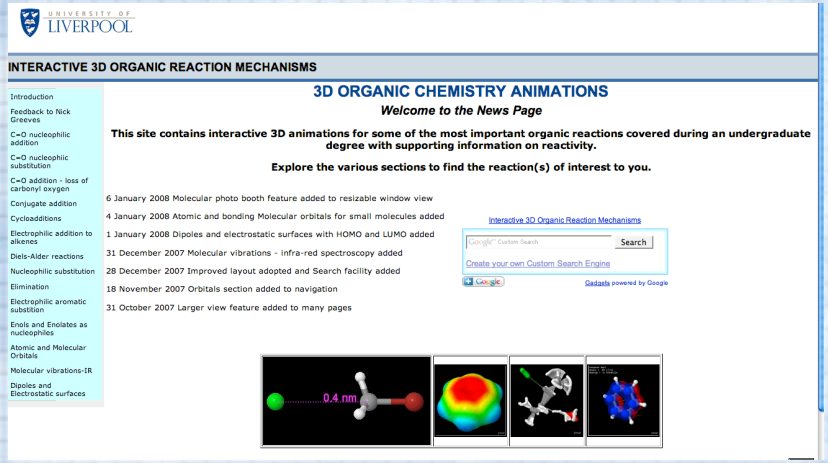
- Understand the uses that those at the leading edge are making or want to make of DLs
- Use qualitative as well as quantitative approaches
- Partner with researchers in the social sciences
- Study users in various disciplines

Who is creating digital libraries?

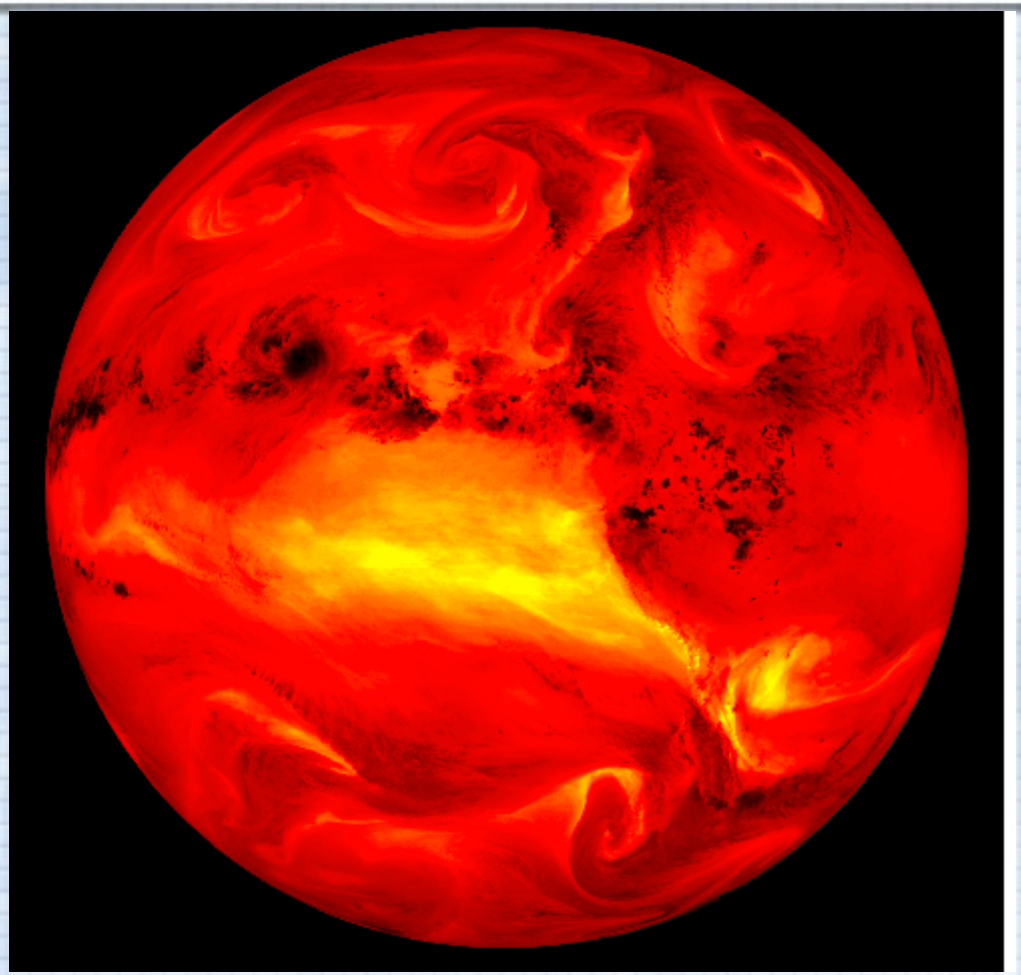
- Traditional libraries (universities, governments, etc.)
- Researchers
- Students
- General public

Potential interoperability

- For a resource created by researchers at U. Liverpool - a publicly available website of 3D organic chemistry animations
- Interoperate with textbooks, learning environments



Interoperate with other data? Maps?



Water vapor data visualization - http://rsd.gsfc.nasa.gov/images/GOES8_details.html

Interoperate with biological journals, reference tools, species collections?

- iSpecies.org
- A researcher at U. Glasgow creates a species search engine yielding many types of data

iSpecies.org

A species search engine

iSpecies is a test of E O Wilson's idea of a web page for each species. The data displayed are generated "on the fly" by queryir
r.page@bio.gla.ac.uk, or visit the iSpecies blog.

Search: elodea Go

elodea

Wikipedia

Elodea (syn. Anacharis) is a genus of aquatic plants often called the water weeds. Elodea is native to North America and it is
Elodea into waterways in parts of Europe, Australia, Africa, Asia, and New Zealand has created a significant problem, and it is
called American or Canadian water weed/pond weed is widely known as the generic water weed. The use of these names cau
elodea...

Original article

Genomics from NCBI

TaxId: 26324 Elodea [monocots] Sequences: 28 nucleotide, 9 protein

- electronic Plant Information Centre
- Global Biodiversity Information Facility
- PLANTS Database (USDA/NRCS)
- The International Plant Names Index
- Integrated Taxonomic Information System
- USDA-ARS GRIN Taxonomy
- Index Nominum Genericorum
- Vascular Tropicos

Map from GBIF

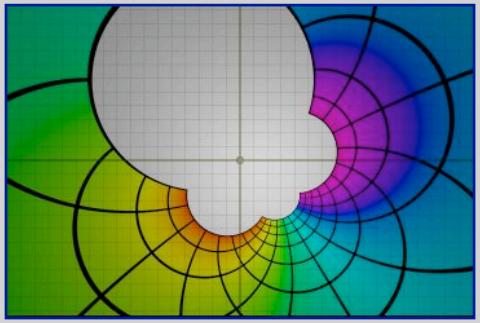
Images from Yahoo

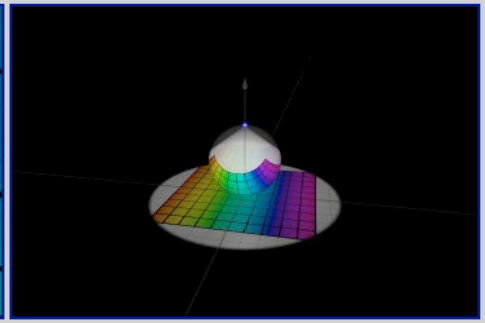
Mobius Transformations *Science* winner

Möbius Transformations Revealed is a wonderful video clarifying a deep topic. This is amazing work by Douglas Arnold and Jonathan Rogness of the University of Minnesota.
— Edward Tufte

Möbius Transformations Revealed is a short video by Douglas Arnold and Jonathan Rogness which depicts the beauty of Möbius transformations and shows how moving to a higher dimension reveals their essential unity. It was one of the winners in the 2007 Science and Visualization Challenge and was featured along with the other winning entries in the September 28, 2007 issue of journal Science. The video, which was first released on YouTube in June 2007, has been watched there by more than a million viewers and classified as a "Top Favorite of All Time" in the Film & Animation category.

- View the low resolution video on YouTube
- View the high resolution video in the IMA video library
- Download the high resolution video in QuickTime format. Warning: the file is 130 MB.
- See some screenshoots (click an image below for higher resolution):

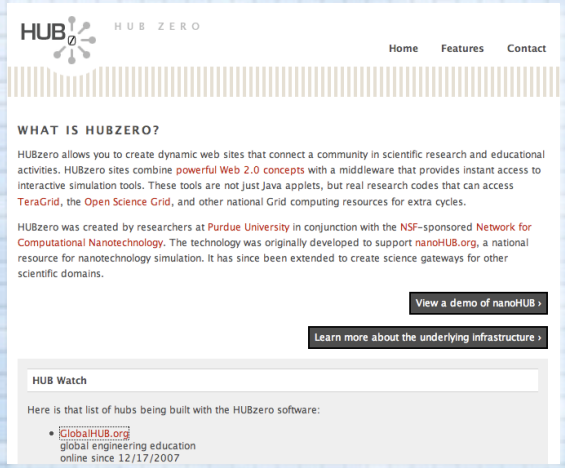


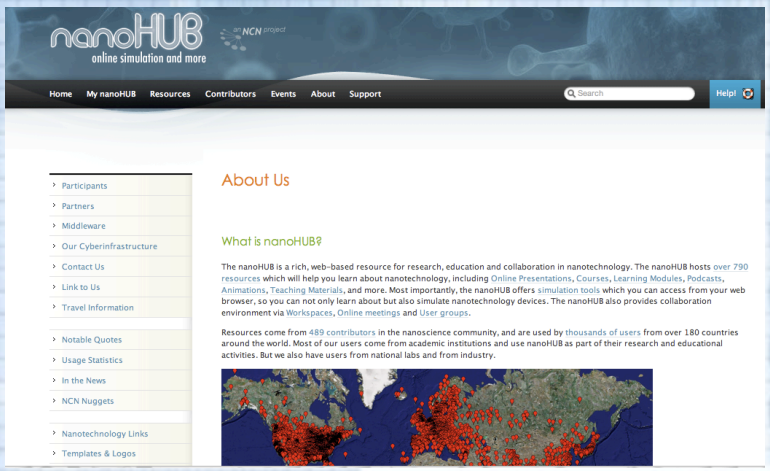


http://www.ima.umn.edu/~arnold/moebius

Hub Zero and nanoHUB at Purdue

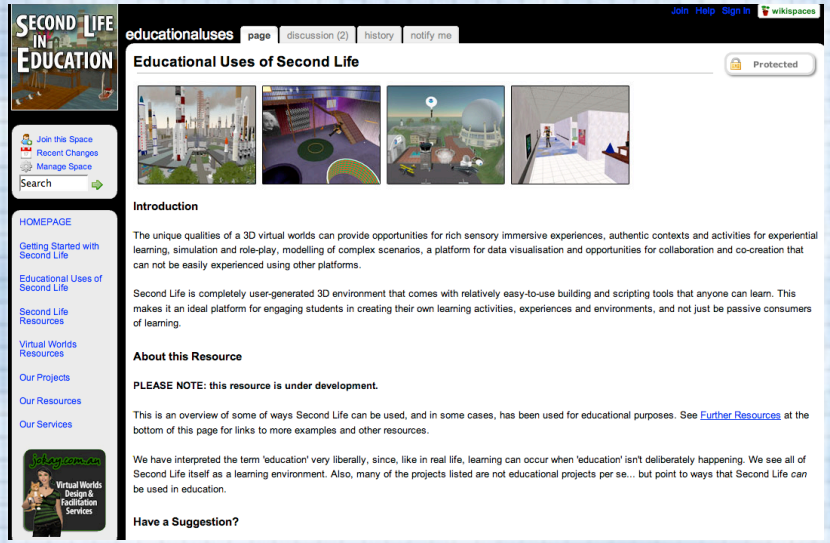
- Access to collaborative simulation tools
- Access to Grid environment
- Collaborative Web 2.0 environment
- Oriented to teaching and learning





Teaching in virtual worlds

- Educators create experiences and events in virtual worlds like Second Life



Student-created heart condition video - U. Alberta

http://www.youtube.com/watch?v=GVxJJ2DBPiQ

Opportunities for creativity are unlimited

Authors, Identity Management, and the Scholarly Communication System

- CNI invitational workshop held February 25, 2007
- Potential attendees submitted statements of interests and relevant work

What is the focus?

- Exploration and potential coordination of a range of developments in historically independent spheres related to management of authorial identity
  - Name authority files across monographic and journal literature with potential links to biographical information
  - Publisher and A/I services operating author identity management systems
  - University-based research management systems and faculty profile systems that include bibliographies and biographies

What is the focus?

- Exploration and potential coordination of developments
  - Coordination with identity management systems such as Shibboleth and Open ID
  - Need for capability of easily identifying an individual author and contacting him/her regarding intellectual property rights
  - Researchers and developers of bibliometric and webmetric systems need means of disambiguation and consolidation of author names

Participants

- Universities and consortia
  - US, Australia (APSR), UK (JISC)
- Content providers
  - Thomson Scientific, Elsevier, ICPSR, Proquest
- National libraries
  - Library of Congress, NCBI
- Other organizations
  - Mellon, ARL, OCLC, CrossRef, ISO/NISO, Internet2, IFLA, and others

Findings

- Many disparate efforts
- Many levels of focus
  - Content from a publisher
  - Content from an institution's researchers
  - Content in a discipline
- Publisher-developed systems shaping up quickly
- Report from CNI out by end of 2008

Thank you!